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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,896	01/06/2004	Hiroki Kishi	1232-5245	5083
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EXAMINER GE, YUZHEN				
ART UNIT 2624		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com
Shopkins@Morganfinnegan.com
jmedina@Morganfinnegan.com

Office Action Summary

Application No.

10/752,896

Applicant(s)

KISHI, HIROKI

Examiner

YUZHEN GE

Art Unit

2624

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-10, 12-15, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-10, 12-15, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Examiner's Remark

Applicant's amendment, filed on March 17, 2008, has been received and entered into the file. The objection to specification and 101 rejections of claims 16-17 have been overcome in view of applicant's amendments/remarks and are hereby withdrawn. Claims 3, 11, and 16-17 have been cancelled and claims 1-2, 4-10, 12-15 and 18-19 are pending.

Regarding applicant's argument that Nozawa does not disclose the use of a discrete wavelet transform (e.g., discrete wavelet transformation), the examiner disagrees. Nozawa clearly teaches the use of a discrete wavelet transform (Figs. 9A-9B, col. 10, lines 47-54, col. 11, lines 5-10 and lines 19-38, LL, LH, HL, HH and LLLH, LLHL, LLHH are all subbands which are results of discrete wavelet transform) and the use of the discrete wavelet transform is for generating moving picture part data (low resolution) from the still picture frame (high resolution).

Regarding applicant's argument that Nozawa appears to teach away from the instant invention because Nozawa's "low resolution video coding circuit 803 performs processes such as orthogonal transformation", the examiner would like to point out that orthogonal transformations are used for coding purposes for low-resolution images. Orthogonal transformations include many kinds of transformation such as DCT, wavelet transform, etc.. It is well-known in the art that subbands/wavelet transform are used for encoding an image or a video frame. JPEG2000 or Motion JPEG2000 is one of the examples that encode using subbands. A new reference is introduced to clarify this.

Regarding applicant's argument that "Harada does not disclose an image processing apparatus for encoding image data in which a still picture frame of an image quality higher than

a prescribed image quality is mixed ..." as stated on Page 13 and 14 of the Remarks by the applicant, the examiner would like to point out that the reference of Harada is introduced only to support the use of different quantization step size for moving picture part data which is part of the still image (high resolution) and moving picture frames (low resolution). Other limitations are disclosed by Nozawa/Nozawa II/Fukuhara et al.

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 5-10, 13-15, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa (JP2000-209587, application number 11-10981, priority document of 6,587,505 cited by IDS) in view of Nozawa II (JP2001-16583 application number 11-184211, priority document of 6,587,505 cited by IDS), further in view of Fukuhara et al (Motion-JPEG2000 standardization and target market, Proceedings of 2000 International Conference on Image Processing, vol. 2, pages 57-60, 2000).

Regarding claims 1 and 9, Nozawa teaches an image processing apparatus for encoding image data in which a still picture frame of an image quality higher than a prescribed imaging quality is

mixed in moving picture data composed of successive moving picture frames having the prescribed imaging quality and the corresponding method claim (abstract), comprising:

first encoding means for encoding the moving picture frames in the moving picture data (103 in Fig. 1, 203 in Fig. 2, 303 in Fig. 3, 602 in Fig. 6) and, with regard to the still picture frame in the moving picture data, generating moving picture part data, which has a quality equivalent to that of moving picture frames (paragraphs [0034], [0044], [0053]), from the still picture frame and encoding the moving picture part data, thereby generating moving picture encoded data (paragraphs [0030]-[0036], [0054] [0060]-[0066]);

second encoding means for encoding difference data, the difference data being the result of removing the moving picture part data from the still picture frame (107 in Fig. 1, 207 in Fig. 2, 307 in Fig. 3, 603 in Fig. 6, paragraphs [0030]-[0036], high frequency component is the difference data);

additional-information generating means for generating correspondence information and identification information, the correspondence information correlating the moving picture part data and corresponding difference data, and the identification information specifying the moving picture part data contained in the moving picture encoded data (108 in Fig. 1, 208 in Fig. 2, 308 in Fig. 3, 510 in Fig. 5, 609 in Fig. 6, paragraphs [0036], [0039], [0048], [0059], [0065]); and output means for outputting the moving picture frame encoded data, the difference encoded data, the correspondence information and the identification information as result of encoding the moving picture data (Figs. 1-3 and 6, the data is outputted and stored).
However he does not explicitly teach wherein said first encoding means and second encoding means employ a common encoding method using subbands, and said first encoding means

generates the moving picture part data from the still picture frame using a discrete wavelet transform. In the same field of endeavor, Nozawa II teaches wherein said first encoding means and second encoding means employ a common encoding method and the second encoding means uses subbands (paragraphs [0028]-[0030], both units use quantization and variable length coding, a low resolution image is a low frequency subband of a corresponding high resolution image, Figs. 3(a)-3(b)), and said first encoding means generates the moving picture part data from the still picture frame using a discrete wavelet transform (Figs. 3(a)-3(b) and Fig. 6, paragraphs [0005], [0012]-[0013], [0026], [0029]-[0033], [0039]-[0042], [0045]).

Fukuhara et al teach an encoding means that encodes images/video pictures including low resolution moving picture frames using subbands (Page 57, Motion JPEG2000 encodes moving picture data using subbands). It is desirable to carry out high efficiency coding of various digital information such as video (low resolution), still picture (high resolution) (paragraphs [0002] and [0003] of Nozawa II). and exploiting the advantages of using subbands which are well known in the art (left column of Page 57 of Fukuhara et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the method of Nozawa II and Fukuhara et al in the encoding means of Nozawa so that first encoding means generates the moving picture part data from the still picture frame using a discrete wavelet transform and the moving picture part data and the still picture frame can be encoded highly efficiently by using a common method.

Regarding claim 2, Nozawa et al teach the apparatus according to claim 1. Nozawa further teaches wherein the imaging quality is at least one of number of pixels and signal-to-noise ratio (paragraphs [0034], [0044], [0053], the quality is number of pixels).

Regarding claim 5, Nozawa et al teach the apparatus according to claim 1. Nozawa further teaches the apparatus comprising recording means for recording encoded results on a storage medium (104 in Fig. 1, 204 in Fig. 2, 304 in Fig. 3).

Regarding claim 6, Nozawa et al teach the apparatus according to claim 1. Fukuhara et al further teach the apparatus further comprising moving picture data generating means for generating the moving picture data (Page 57, camera are used for generating moving picture data)

Regarding claim 7, Nozawa et al teach an image processing apparatus for decoding the encoded results generated by the image processing apparatus set forth in claim 1. Nozawa further teaches the apparatus comprising:

first decoding means for decoding the moving picture frame encoded data and reproducing moving picture frames and moving picture part data (Figs. 5-7, paragraphs [0009], [0011], [0083]);

second decoding means for decoding the difference encoded data (Figs.5-7, paragraphs [0009], [0011], [0083], the high frequency component is the difference encoded data);

still picture frame reproducing means for reproducing a still picture frame using the moving picture part data retrieved and difference data, which corresponds to this moving

picture part data, retrieved based upon the identification information (Figs. 5-7, paragraphs [0039], [0048], [0059], and [0065]). However they do not explicitly teach searching means, which is responsive to an externally entered command to display a still picture, for searching for the moving picture part data contained in the moving picture frame encoded data based upon the identification information. The examiner would like to make office notice that there are prior arts that teach this limitation and this teaching may be found in other priority documents for 6,587,505.

Claim 8 is the corresponding encoder and decoder apparatus claim of claims 1 and 7.

Nozawa teach a device with a first image processing apparatus for encoding and a second image processing apparatus for decoding (Figs. 1-3 and 5-7). Thus Nozawa et al teach claims 8 as evidently explained in the above-cited passages for claims 1 and 7.

Claims 9-10 and 13-15 are the corresponding method claims of claims 1-2 and 5-7. Nozawa teach a method (title, abstract). Thus Nozawa et al teach claims 9-10 and 13-15 as evidently explained in the above-cited passages for claims 1-2 and 5-7.

Claims 18-19 are the corresponding computer readable medium claims of claims 1 and 7.

Nozawa teach a computer readable medium (paragraph [0076]-[0077]). Thus Nozawa et al teach claims 18-19 as evidently explained in the above-cited passages for claims 1 and 7.

5. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa in view of Nozawa II and Fukuhara et al, further in view of Harada (US Patent 6,075,559).

Regarding claims 4 and 12, Nozawa et al teach the apparatus and method of claims 1 and 9. However they do not explicitly teach wherein first encoding means encodes the moving picture part data using quantization steps that differ from quantization steps used in encoding the moving picture frames. In the same field of endeavor, Harada teaches that an encoding means encodes moving picture part data from a still image using quantization steps that differ from quantization steps used in encoding moving picture frames (col. 5, line 60-col. 6, line 9). It is desirable to preserve image quality, i.e., highly accurate image information is provided with still images and it is desirable to be efficient in compression (col. 5, lines 60-col. 6, line 9 of Harada). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the different quantization steps for moving picture part data that is from still image and moving picture frames so that image quality can be preserved and compression is more efficient.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge
Examiner
Art Unit 2624

/Wenpeng Chen/

Art Unit: 2624

Primary Examiner, Art Unit 2624

3/28/08